

Name _____

Date _____

Algebra Review

$2x(3x+2) \quad 3(3x+2)$

Factor.

1. $2xy^3 - 10x$

$2x(y^3 - 5)$

2. $x^2 + 7x + 6$

$(x+6)(x+1)$

3. $y^2 - 5y + 4$

$(y-4)(y-1)$

4. $2x^2 + 3x + 1$

$(2x+1)(x+1)$

5. $6x^2 + 13x + 6$

$(2x+3)(3x+2)$

6. $3x^2 + 21x - 24$

$3(x^2 + 7x - 8)$

$3(x+8)(x-1)$

7. $12y^2 - y - 6$

$(4y-3)(3y+2)$

8. $x^2 + 12x + 36$

$(x+6)^2$

9. $x^2 - 64$

$(x+8)(x-8)$

Simplify.

1. $\sqrt{50x^2}$

$5x\sqrt{2}$

2. $\sqrt{108y^5}$

$6y^2\sqrt{3y}$

3. $\sqrt{81x^3}$

$9x\sqrt{x}$

4. $\sqrt{45}$

$3\sqrt{5}$

5. $\sqrt{243}$

$9\sqrt{3}$

6. $\sqrt{\frac{16}{25}}$

$\frac{4}{5}$

7. $\sqrt{\frac{3}{8}}$

$\frac{\sqrt{6}}{4}$

8. $\sqrt{\frac{5}{9}}$

$\frac{\sqrt{5}}{3}$

9. $\frac{10}{\sqrt{24}}$

$\frac{5\sqrt{6}}{12}$

10. $\frac{14}{\sqrt{12}}$

$\frac{7\sqrt{3}}{3}$

11. $2\sqrt{12} - 3\sqrt{27} + 2\sqrt{48}$

$4\sqrt{3} - 9\sqrt{3} + 8\sqrt{3} = 3\sqrt{3}$

12. $3\sqrt{45} - 5\sqrt{80} + 4\sqrt{20}$

$9\sqrt{5} - 20\sqrt{5} + 8\sqrt{5} = -3\sqrt{5}$

13. $3\sqrt{12} \cdot 2\sqrt{21}$

$6\sqrt{3} \cdot 2\sqrt{21} = 12\sqrt{63} = 36\sqrt{7}$

14. $-3\sqrt{24} \cdot 5\sqrt{20}$

$-6\sqrt{6} \cdot 10\sqrt{5} = -60\sqrt{30}$

Solve the system.

1. Substitution

$2x - 3y = 3$

$x + y = 14$

$(9, 5)$

2. Substitution

$2x + y = 11$

$6x - 2y = -2$

$(2, 7)$

3. Elimination

$r + 4s = -8$

$3r + 2s = 6$

$(4, -3)$

4. Elimination

$6x - 8y = 50$

$4x + 6y = 22$

$(7, -1)$

Any Method.

5. $6x + 3y = 12$

$2x + y = 8$

\emptyset

6. $3x - 7y = -3$

$2x + 6y = -34$

$(-8, -3)$

7. $x + 2y = 6$

$2x + 4y = 12$

∞ # solns
on line
 $x + 2y = 6$

8. $3x + 5y = 6$

$2x - 4y = -7$

$(\frac{1}{2}, \frac{3}{2})$